



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,084	09/09/2003	Raymond Joseph Reisdorf	TP2686 US NA	1439

23906 7590 12/21/2004

E I DU PONT DE NEMOURS AND COMPANY  
LEGAL PATENT RECORDS CENTER  
BARLEY MILL PLAZA 25/1128  
4417 LANCASTER PIKE  
WILMINGTON, DE 19805

EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/658,084	Applicant(s) REISDORF ET AL.	
	Examiner Sam Chuan C. Yao	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) 6, 7 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-13, 15, 16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Species A (claims 1-13 and 15) in the reply filed on 11-16-04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). On 12-16-04, Examiner requested for Counsel further elect the two species in newly added claims (Species X: molten polymeric adhesive is formed by extrusion & Species Y: molten polymeric adhesive is formed by melting fine powder using a radiant heater). Counsel elected with traverse Species X. Since newly added claim 18 is readable to both Species A and X, this claim was also considered on the merit.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/14806 A1 in view of either Scott et al (US 4,798,644), Reith (US 4,939,036), and optionally further in view of Cross (US 4,731,143) for reasons of record set forth in a prior office action dated 05-18-04, and further in view of Fink (US 5,288,349).

Art Unit: 1733

As for the recited melt index of a molten polymer adhesive, such would have been obvious in the art, because: a) a suitable thermoplastic adhesive taught by WO '806 has a melt-index of less than about 500 dg/min (with a preferred range of less than about 200 dg/min) as measured by the procedure of ASTM D-1238 (page 7 full paragraph 1); b) Reith teaches using 1<sup>st</sup> and 2<sup>nd</sup> hot melting adhesive layers for bonding a primary backing to a secondary backing, wherein the 1<sup>st</sup> hot melting adhesive layer having a viscosity at an activation temperature that *"is sufficiently low that the activated adhesive flows during the finishing step into and around the tuft stitches and the primary backing so that on solidification of the adhesive the tufts are securely bonded in the carpet structure and resist pull-out."* (emphasis added; col. 4 line 61 to col. 5 line 29; col. 6 lines 12-37); and c) Fink teaches that *"[h]ot-melt adhesives also must have low enough viscosities at temperatures employed in finishing to achieve good wetting of the backings and sufficient encapsulation of tuft stitches to make the tuft yarns resistant to pull-out, pilling and fuzzing."* (emphasis added; col. 2 lines 59-68).

With respect to claim 18, as noted in the prior office action, WO '806 teaches compressing the tufted primary backing and the molten adhesive at a pressure of at least of 2 psi for a time range of 1-10 seconds *"to encapsulate the bases of the yarn tufts"*.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 3 above as applied to claim 1 above, and further in view of Kasamatsu (US 4,708,629).

Art Unit: 1733

WO '806 discloses extruding a hot-melting adhesive to a secondary backing and bonding the adhesive coated secondary backing to a primary backing to form a carpet (page 3 full paragraph 2). WO '806 does not teach extruding a hot-melting adhesive onto an underside surface of a primary backing of a carpet at a distance of less than 5 cm. However, such would have been obvious in the art, because: a) it is old in the art to extrude a low viscosity hot-melting adhesive onto a continuously moving substrate such as a cloth, where an extrusion die is positioned such that it almost touches the moving substrate (col. 2 lines 35-56; col. 3 lines 17-37; figure 5); and, b) it is also well known in the art to extrude a hot-melting adhesive onto an underside surface of primary backing of a carpet. A preference on whether to extrude a hot-melting adhesive onto an underside surface of a primary backing or onto a bonding surface of a secondary backing is taken to be well within purview of choice in the art.

### ***Response to Arguments***

5. Applicant's arguments filed on 11-16-04 have been fully considered but they are not persuasive.

On page 8, Counsel argues that, the present invention uses a "*relatively low viscosity (high melt index)*" thermoplastic adhesive. In contrast, a most preferred range of melt indices for a thermoplastic adhesive taught by WO '806 is 2-50 dg/min, and the melt indices in example 1 is 10 dg/min and in examples 2-4 are 35 dg/min. Counsel further argues that, tests were conducted showing the inability of WO '806 polymeric adhesives (based on adhesives in examples of

WO '806) to accomplish the objective of impregnating *"the fiber networks of the tufts and contact the overwhelming majority of the fibers in the tufts."* While it is true that, it is especially preferred in the WO '806 to use a thermoplastic adhesive having a melt indices in a range of 2-50 dg/min, WO '806 also teaches using a thermoplastic adhesive having melt indices of less than about 500 dg/min, with a preferred range of less than about 200 dg/min. In fact, the preferred melt index of say 199 dg/min is greater than a minimum melt-index of 150 dg/min recited in claim 1. Counsel is apprised that, a disclosure of a prior art reference is not limited to working examples or the most preferred embodiment, but rather should be evaluated on what the reference as a whole would have suggested to one in the art. Moreover, obviousness may exist although teachings relied upon may be disclosed in the art as non-preferred or unsatisfactory for the intended purpose. In re Boe, 53 CCPA 1079; 355 F2d 961; 158 USPQ 507. In re Smith, 32 CCPA 959; 148 F2d 351; 65 USPQ 167. In re Nehrenberg, 47 CCPA 1159; 280 F2d 161; 126 USPQ 383. In re Watanabe, 50 CCPA 1175; 315 F2d 924; 137 USPQ 350. As noted above, it would have been obvious in the art to use an adhesive taught by WO '806 with a melt indices in a range of about 150-500 dg/min, because: a) a suitable thermoplastic adhesive taught by WO '806 has a melt-index of 500 dg/min or less as measured by the procedure of ASTM D-1238 (page 7 full paragraph 1); b) Reith teaches using 1<sup>st</sup> and 2<sup>nd</sup> hot melting adhesive layers for bonding a primary backing to a secondary backing, wherein the 1<sup>st</sup> hot melting adhesive layer having a viscosity at an activation temperature that *"is*

*sufficiently low that the activated adhesive flows during the finishing step into and around the tuft stitches and the primary backing so that on solidification of the adhesive the tufts are securely bonded in the carpet structure and resist pull-out.”* (col. 4 line 61 to col. 5 line 29; col. 6 lines 12-37); and c) Fink teaches that “[h]ot-melt adhesives also must have low enough viscosities at temperatures employed in finishing to achieve good wetting of the backings and sufficient encapsulation of tuft stitches to make the tuft yarns resistant to pull-out, pilling and fuzzing.” (col. 2 lines 59-68).

As for Counsel's argument regarding the Scott et al, Reith and Cross patents, it would appear that, Counsel is resorting to piece-meal analysis of the applied references. What is critical on the issue of patentability under 35 U.S.C. 103(a) is “*what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of the first one and then another of the isolated teachings in the art.*” In re Kuderna, 165 USPQ 575 (CCPA 1970). As for Counsel's argument regarding the Reith patent not using at least 85 wt% of a low viscosity polymer adhesive, it should be noted that, WO '806 (the primary reference) teaches using a hot melting adhesive “*consisting essentially of an ethylene copolymer*” having 8-25 wt% of ester groups, 1-20 wt% of carboxylic acid groups, wherein the combined ester and carboxylic acid groups should not comprise more than 35 wt% of the ethylene copolymer (i.e. the copolymer comprises at least 65 wt% of ethylene).

As for a declaration made by Mr. Reisdorf, as noted above, WO '806 teaches using a thermoplastic adhesive having melt indices of less than 500 dg/min and a preferred range of less than about **200 dg/min**. Counsel is again apprised that, a prior art reference is not confined to working examples or the most preferred embodiment in a disclosure, but rather should be evaluated on what the reference as a whole would have suggested to one in the art. It is respectfully submitted that, a resultant carpet using an adhesive taught by WO '806 with a melt index of (say) 450 dg/min, if tested according to Lisson Tretrad fiber retention test, would readily obtain a rating of category 4. As for numbered paragraph 9 of the declaration, this should be expected, because, as noted above, a) Reith teaches using 1<sup>st</sup> and 2<sup>nd</sup> hot melting adhesive layers for bonding a primary backing to a secondary backing, wherein the 1<sup>st</sup> hot melting adhesive layer having a viscosity at an activation temperature that *"is sufficiently low that the activated adhesive flows during the finishing step into and around the tuft stitches and the primary backing so that on solidification of the adhesive the tufts are securely bonded in the carpet structure and resist pull-out."* (col. 4 line 61 to col. 5 line 29; col. 6 lines 12-37); and b) Fink teaches that *"[h]ot-melt adhesives also must have low enough viscosities at temperatures employed in finishing to achieve good wetting of the backings and sufficient encapsulation of tuft stitches to make the tuft yarns resistant to pull-out, pilling and fuzzing."* (col. 2 lines 59-68).



Art Unit: 1733

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
12-16-04